

HOMING BY A PYGMY RABBIT¹

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ABSTRACT.—A juvenile female pygmy rabbit (*Sylvilagus idahoensis*) escaped from a holding pen and was recaptured 211 days later 200 m from its original capture site and 2.5 km from the pen facility.

Homing for distances of 3.8 km (Hill 1967) and 4.8 km (Bowers 1954) was reported for the eastern cottontail (*Sylvilagus floridanus*). Chapman (1971) reported the brush rabbit (*S. bachmani*) failed to home greater than 0.16 km in 29 trials. This is a report of homing by a pygmy rabbit (*S. idahoensis*), the smallest member of the genus, from a distance of 2.5 km.

The rabbit, a juvenile female weighing 101 g, was captured 23 June 1977 on the U.S. Sheep Experiment Station near Dubois, Idaho. It was taken to a permanent pen facility, ear-tagged, and placed in a cage from which it escaped during the first night. Two hundred and eleven days later on 20 January 1978, while trapping pygmy rabbits for behavioral research, the escaped specimen was caught approximately 200 m from its original capture site and 2.5 km from the pen facility. It appeared to be in good condition and it weighed 392 g. The rabbit was observed at least four times during the next 19 days in the second capture area and was apparently a resident there. Suitable habitats occupied by pygmy rabbits are found in any direction of escape from the cage area. The fact that the animal traveled toward its original capture site is, therefore, not apparently related to the absence of suitable habitat elsewhere.

Maximum movements we previously recorded for two pygmy rabbits (tracked in snow) were one-way distances of 140 and 450 m during winter 1976. Wilde et al. (1976) noted an adult female (radio-instrumented in late November) that showed extreme fidelity to her burrow and was never located farther than 20 m from the burrow where originally captured. However, they documented longer movements by tagged and recaptured individuals; one female moved a maximum of 300 m, a male moved as far as 500 m, and an-

other male moved 200 m. Janson (1946) observed that activity of pygmy rabbits in winter was within a radius of about 27 m from their burrows. He wrote that in spring the radius of activity increased in response to snow melt and onset of breeding activity. On the basis of McNab's (1963) method of predicting approximate size of home range from basal metabolism and body size of mammals, the home range of the pygmy rabbit should be about 0.8 ha. This was calculated using an average body weight of 454 g obtained from 11 female pygmy rabbits kept in captivity and weighed at least weekly from September through February. Clearly the movement we recorded is far beyond that normally associated within a radius of movement well within documented range for the species. A movement of 2.5 km for a juvenile sheds light on the dispersal and pioneering capabilities of the pygmy rabbit.

LITERATURE CITED

- CHAPMAN, J. A. 1971. Orientation and homing of the brush rabbit. (*Sylvilagus bachmani*). J. Mamm. 52:686-699.
- BOWERS, G. L. 1954. An evaluation of cottontail rabbit management in Pennsylvania. Trans. N. Amer. Wildl. Conf. 19:358-367.
- HILL, E. P. 1967. Homing by a cottontail rabbit. J. Mamm. 48:648.
- JANSON, R. G. 1946. A survey of the native rabbits of Utah with reference to their classification, distribution life histories and ecology. Unpublished master's thesis. Utah State University, 103 pp.
- McNAB, B. K. 1963. Bioenergetics and the determination of home range size. Amer. Nat. 97:133-140.
- WILDE, D., J. S. FISHER, AND B. L. KELLER. 1976. A demographic analysis of the pygmy rabbit, *Sylvilagus idahoensis*. Pp. 88-105. In: 1975 Progress Report Idaho National Engineering Laboratory Site Radioecology-Ecology Programs (O. D. Marham, ed.), U.S. Energy Res. and Development Admin., Idaho Falls. 205 pp.

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